

SINGLE-DIRECTION OPERATION TYPE RATCHET WRENCH

STRUCTURE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a single-direction operation type ratchet wrench structure, and more particularly to a single-direction operation type ratchet wrench structure that may enhance convenience of operation.

2. Description of the Related Art

A conventional single-direction operation type ratchet wrench in accordance with the prior art may be used to operate a workpiece, such as a nut, a bolt or the like, to rotate along one direction only. Thus, the conventional single-direction operation type ratchet wrench may drive the workpiece to rotate in the clockwise direction so as to lock the workpiece. The conventional single-direction operation type ratchet wrench may be inverted to drive the workpiece to rotate in the counterclockwise direction so as to unlock the workpiece.

However, the user cannot identify the correct rotation direction of the conventional single-direction operation type ratchet wrench, so that the user has to mount the conventional single-direction operation type ratchet wrench on the workpiece to test the correct rotation direction of the conventional single-direction operation type ratchet wrench for locking or unlocking the workpiece, thereby causing inconvenience to the user.

SUMMARY OF THE INVENTION

1 The present invention has arisen to mitigate and/or obviate the
2 disadvantage of the conventional single-direction operation type ratchet
3 wrench.

4 The primary objective of the present invention is to provide a
5 single-direction operation type ratchet wrench structure that may enhance
6 convenience of operation.

7 Another objective of the present invention is to provide a
8 single-direction operation type ratchet wrench structure, wherein when the
9 user holds the handle of the single-direction operation type ratchet wrench
10 structure, he may directly identify the direction of operation for locking or
11 unlocking the workpiece by the location and the direction of the identification
12 portion on the handle, without having to test the direction of operation for
13 locking or unlocking the workpiece, thereby facilitating the user operating the
14 handle of the single-direction operation type ratchet wrench structure.

15 In accordance with the present invention, there is provided a
16 single-direction operation type ratchet wrench structure, comprising:

17 an elongated handle having one end provided with a socket end, and
18 a ratchet wheel mounted in the socket end and operated in one direction only;
19 and

20 an identification portion mounted on the handle, and mating with a
21 rotation direction of the single-direction operation type ratchet wrench
22 structure for locking or unlocking a workpiece, so that when a user holds the
23 handle of the single-direction operation type ratchet wrench structure, he may
24 directly identify the correct rotation direction for locking or unlocking the

1 workpiece by the location and the direction of the identification portion on the
2 handle.

3 Further benefits and advantages of the present invention will become
4 apparent after a careful reading of the detailed description with appropriate
5 reference to the accompanying drawings.

6 **BRIEF DESCRIPTION OF THE DRAWINGS**

7 Fig. 1 is a plan view of a single-direction operation type ratchet
8 wrench structure in accordance with a first embodiment of the present
9 invention;

10 Fig. 2 is a plan view of a single-direction operation type ratchet
11 wrench structure in accordance with a second embodiment of the present
12 invention;

13 Fig. 3 is a plan view of a single-direction operation type ratchet
14 wrench structure in accordance with a third embodiment of the present
15 invention;

16 Fig. 4 is a plan view of a single-direction operation type ratchet
17 wrench structure in accordance with a fourth embodiment of the present
18 invention;

19 Fig. 5 is a plan view of a single-direction operation type ratchet
20 wrench structure in accordance with a fifth embodiment of the present
21 invention;

22 Fig. 6 is a plan view of a single-direction operation type ratchet
23 wrench structure in accordance with a sixth embodiment of the present
24 invention;

Fig. 7 is a plan view of a single-direction operation type ratchet wrench structure in accordance with a seventh embodiment of the present invention; and

Fig. 8 is a plan view of a single-direction operation type ratchet wrench structure in accordance with a eighth embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings and initially to Fig. 1, a single-direction operation type ratchet wrench structure in accordance with a preferred embodiment of the present invention comprises an elongated handle 10 having a first end provided with an opened end 11 and a second end provided with a socket end 15. A ratchet wheel 16 is mounted in the socket end 15 of the handle 10 and may be operated in one direction only, so that the user may use the ratchet wheel 16 of the socket end 15 of the handle 10 to rotate and lock a workpiece, such as a nut or the like, and may invert the ratchet wheel 16 of the socket end 15 of the handle 10 to rotate and unlock the workpiece.

The single-direction operation type ratchet wrench structure in accordance with the preferred embodiment of the present invention further comprises an identification portion 20 mounted on a side edge of the handle 10 and mated with a rotation direction of the ratchet wrench structure for locking or unlocking a workpiece, so that when a user holds the handle 10 of the single-direction operation type ratchet wrench structure, he may directly identify the correct rotation direction for locking or unlocking the workpiece

1 by the location and the direction of the identification portion 20 on the handle
2 10.

3 The identification portion 20 may be located adjacent to the opened
4 end 11 or the socket end 15 of the handle 10, so as to mate with the operation
5 direction of the ratchet wheel 16 of the socket end 15 of the handle 10 of the
6 single-direction operation type ratchet wrench structure.

7 The identification portion 20 may be provided with concave streaks
8 or convex streaks formed on or bonded on the side edge of the handle 10 and
9 located adjacent to the opened end 11 or the socket end 15 of the handle 10.

10 As shown in Fig. 1, the identification portion 20 includes multiple
11 serially arranged upper oblique streaks 21 each directed toward a direction
12 opposite to the socket end 15 of the handle 10.

13 In operation, when the identification portion 20 is located at the top
14 edge of the handle 10, the handle 10 may be rotated toward the direction of the
15 identification portion 20, i.e., in the counterclockwise direction, so as to unlock
16 or detach the workpiece. On the contrary, when the identification portion 20 is
17 located at the bottom edge of the handle 10, the handle 10 may be rotated
18 toward the direction of the identification portion 20, i.e., in the clockwise
19 direction, so as to lock the workpiece.

20 Thus, when the user holds the handle 10 of the single-direction
21 operation type ratchet wrench structure, he may directly identify the direction
22 of operation for locking or unlocking the workpiece by the location and the
23 direction of the identification portion 20 on the handle 10, without having to
24 test the direction of operation for locking or unlocking the workpiece, thereby

1 facilitating the user operating the handle 10 of the single-direction operation
2 type ratchet wrench structure.

3 As shown in Fig. 2, the identification portion 20 includes multiple
4 serially arranged lower oblique streaks 22 each directed toward the direction of
5 the socket end 15 of the handle 10.

6 As shown in Fig. 3, the identification portion 20 includes multiple
7 serially arranged serrated teeth 23 formed on a side end face of the handle 10,
8 thereby increasing the user's touch sensation.

9 As shown in Fig. 4, the serrated teeth 24 of the identification portion
10 20 are distributed along the entire side end face of the handle 10, thereby
11 increasing the user's touch sensation.

12 As shown in Fig. 5, the identification portion 20 includes multiple
13 intermittently arranged oblique streaks 25 formed on a side edge of the handle
14 10, thereby increasing the user's touch sensation.

15 As shown in Fig. 6, the identification portion 20 includes multiple
16 serially arranged arrow-shaped streaks 26 formed on a side edge of the handle
17 10, thereby increasing aesthetic quality of the single-direction operation type
18 ratchet wrench structure.

19 As shown in Fig. 7, the serrated teeth 24 of the identification portion
20 20 are distributed along the entire side end face of the handle 10, thereby
21 increasing the user's touch sensation. In addition, the identification portion 20
22 includes an arrow-shaped streak 27 formed on the surface of the socket end 15
23 of the handle 10, thereby facilitating the user identifying the direction of
24 operation of the socket end 15 of the handle 10.

1 As shown in Fig. 8, the identification portion 20 includes multiple
2 serially arranged serrated teeth 23 formed on a side end face of the handle 10,
3 thereby increasing the user's touch sensation. In addition, the identification
4 portion 20 includes an arrow-shaped streak 27 formed on the handle 10 and
5 located adjacent to the socket end 15 of the handle 10, thereby facilitating the
6 user identifying the direction of operation of the socket end 15 of the handle
7 10.

8 While the preferred embodiment of the present invention has been
9 shown and described, it will be apparent to those skilled in the art that various
10 modifications may be made in the embodiment without departing from the
11 spirit of the present invention. Such modifications are all within the scope of
12 the present invention.